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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,485	10/26/2001	Ronald E. Pelrine	60501-301103	4033

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OPPENHEIMER WOLFF & DONNELLY
P. O. BOX 10356
PALO ALTO, CA 94303

EXAMINER

LE, HUYEN D

ART UNIT PAPER NUMBER

2643

DATE MAILED: 03/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/047,485

Applicant(s)
Peltine et al.

Examiner
HUYEN LE

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The original specification does not disclose that the elastomeric dielectric polymer layer is a non-metallic layer as claimed in claim 1 now.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

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provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 and 15-18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,343,129. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations in claims 1-2 of the U.S. patent No. 6,343,129 cover the limitations in claims 1 and 15-18 in the present application..

Claim Rejections - 35 USC § 112

4. Claims 1 recites the limitation "said sonic actuator film" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claims 5-10 and 12-13 recites the limitation "said film". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehead et al. (U.S. patent 4,885,783).

Regarding claims 1-3, Whitehead teaches a transducer which comprises a non-metallic elastomeric dielectric polymer layer (36 and see col. 5, lines 14 and 34-35), first compliant electrode layer (32) and second compliant electrode layer (34, col. 5, line 32) as claimed.

Whitehead does not specifically teach a support structure for the device. However, the examiner takes the Office Notice that providing a support structure for the transducer is very well-known in the art.

Therefore, it would have been obvious to one skilled in the art to provide a support structure for the Whitehead device for protecting the parts of the transducer.

5. Claims 1-6, 8-9, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

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Micheron (U.S. patent 4,400,634) in view of Whitehead..

Regarding claims 1-4, Micheron teaches a transducer which comprises an dielectric polymer layer (1, 11), first and second compliant electrode layers (the metal films 4, 5 and 9) as claimed. Micheron further shows a support structure as claimed (15, 17).

Micheron does not specifically teach that the dielectric polymer layer is an elastomeric material. However, the providing the elastomeric material for the dielectric layer is very well known in the art.

Whitehead teaches an elastomeric material (the rubber dielectric 36) for the electret layer of an electrostatic transducer.

Therefore, it would have been obvious to one skilled in the art to provide the elastomeric layer, as taught by Whitehead, for the dielectric layer of Micheron for an alternate choice of providing different kinds of polymeric material.

Regarding claims 5-6, Micheron shows the portions of the film (14) bulge in a first direction at least some of the apertures (figure 10).

Regarding claims 8-9, Micheron shows the film which is biased by a gaseous pressures as claimed (see the deformations of the film in figures 9-10).

Regarding claim 13, Micheron shows the support structure as claimed (figure 10).

Regarding claim 14, Micheron shows the multi-layer membrane with a plurality of elastomeric dielectric polymer layers and the electrode layers as claimed (figures 4-5).

Regarding claims 15-16, Micheron teaches a driver and the summer as claimed (col. 4,

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lines 38-40).

6. Claims 1-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobbio (U.S. patent 5,206,557) in view of Whitehead.

Regarding claims 1-4, Bobbio teaches a transducer which comprises an dielectric polymer layer (21, 21' and see col. 8, line 4), first and second compliant electrode layers (the metal films 23, 23') as claimed (figure 3). Bobbio further shows a support structure as claimed (24, 25).

Bobbio does not specifically teach that the dielectric polymer layer is an elastomeric material. However, the providing the elastomeric material for the dielectric layer is very well known in the art.

Whitehead teaches an elastomeric material (the rubber dielectric 36) for the electret layer of an electrostatic transducer.

Therefore, it would have been obvious to one skilled in the art to provide the elastomeric layer, as taught by Whitehead, for the dielectric layer of Bobbio for an alternate choice of providing different kinds of polymeric material.

Regarding claims 5-6, Bobbio shows the portions of the sonic actuator film bulge in a first direction at least some of the apertures (figure 1B).

Regarding claims 7, Bobbio shows the portions of the film bulge in a first direction at least some of the apertures (figure 1B) and the portions of the film bulge in a second direction at others of the apertures (figure 1B) .

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Regarding claims 8-9 and 12, Bobbio shows the film which is biased by a gaseous pressures as claimed (see the deformations of the film in figures 9-10).

Regarding claims 10- 11, Bobbio teaches the film which is biased by a polyimide connector (26).

Bobbio does not specifically teach a soft foam or a closed-cell foam material as claimed. However, Bobbio does estimate a synthetic polymeric resin for a spring force to bias the film.

Since Bobbio teaches a connector for supporting flexible strips; it therefore would have been obvious to one skilled in the art to provide any resilient material for the connector (26) of Bobbio such as a soft foam or a closed-cell foam for better controlling the spring force of the transducer.

As shown in the drawings, the diameter of the connector is substantially less than a diameter of the apertures.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Le whose telephone number is (703) 305-4844. The examiner can normally be reached on Monday through Friday from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-5631**.

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Any response to this action should be failed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:


(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).



HL

March 21, 2003



HUYEN LE
PRIMARY EXAMINER